

REMARKS

Claims 26 -104 were pending in the application. Claims 61-100 have been canceled from the application without prejudice or disclaimer. Of the claims, claims 26, 32, 42, 43, 52, 57 and 101 are independent claims. To further the prosecution of this application, amendments and arguments are submitted herewith. All amended claims are believed to clearly patentably distinguish over the cited and referenced prior art.

Claims 26-104 have been rejected under 35 U.S.C. 102(b) as being anticipated by Green (U.S. Patent No. 5,808,665). Before addressing the rejection there is set forth a brief discussion of the improved system of the present invention particularly as it relates to Green.

The instrument system of the present invention represents an improvement over systems of the type shown in Green. The system of the present invention, inter alia, reduces the pivoting at the incision to a one axis pivoting instead of the two axis pivoting described in Green. Refer to Fig. 11 of Green and the center of rotation point 176 at the incision and represented by the double arrows 152M and 154M, indicative of two dimensional pivoting at the incision. Also refer to column 9 of Green at lines 50 -55 where Green indicates that the center of rotation of forearm 174 is fixed at point 176 at the level of the abdominal wall 178.

The system of the present invention, on the other hand, has devised a way of avoiding this two axis pivoting, thus reducing the stress at the incision. While prior art systems use a standard trocar or cannula at the incision, the system of the present invention uses a guide tube (also referred to herein as a guide, guide member, guide assembly, etc.) that is bent (displaced a radial distance from a center line) at its distal end, and rotated. In this way only one dimensional pivoting occurs at the incision thus minimizing stress at the incision, while the attendant rotation of the guide member provides an additional degree of freedom or motion actuation.

The Office Action has referred primarily to Fig. 11 of Green for rejection of the claims. First this embodiment of Green uses the prior art two axis pivoting with its attendant stress at the incision, and second, this system essentially uses no guide tube or its equivalent for controlling the instrument. The only element in the Green system that could in any way be construed as a guide is the cannula 180 (Fig. 11), but this is no more than a standard cannula and is not manipulated or controlled in any manner. The cannula is not rotated, transitioned or controlled

at all. Refer also to column 9 at lines 35-37 of Green where the manipulator arm 174 is indicated as extending through a cannula 180 which penetrates the abdominal wall 178. Everything else shown in Fig. 11 of Green is the instrument itself. The integral instrument members are specifically identified in Fig. 11 as the forearm 174 connecting to a wrist 172 and, in turn, connecting to the end effector 170. Other than the cannula 180, there is no disclosure of any guide for receiving or coupling with the instrument. Furthermore, as already discussed the cannula in Green is not controlled at all and thus provides no controlled motion or actuation to the instrument.

Moreover, the applicants note that the statement of reasons for allowance in related subject matter U.S. Patent Application Serial No. 10/013,046 states:

“the prior art fails to disclose or reasonably teach a surgical instrument system wherein a guide member including a guide tube having a proximal end disposed outside the patient and a distal end internal of the patient, the guide tube having an elongate portion with a central axis of rotation and a distal portion having an end that is positioned a radial distance away from the central axis.”

When making this statement, Green was of record.

Now, with respect to the rejections, regarding independent claim 26, Green does not show a guide assembly including a receiving passage and a distal end that is positioned a radial distance away from the longitudinal axis; a surgical tip assembly disposed through the receiving passage; nor a drive unit for rotating the guide assembly, and thereby causing the distal end of the surgical tip assembly to orbit the longitudinal axis of the guide assembly. Green's cannula 180 does not teach or suggest the applicants' disclosed guide tube because the cannula does not have a distal end that is positioned a radial distance away from the longitudinal axis, nor does Green teach a drive unit that rotates the cannula. If some part of the instrument itself is considered as a guide, such as the forearm 174, it does not teach or suggest the disclosed guide assembly because the forearm 174 does not have a passage; a distal end that is positioned a radial distance away from its longitudinal axis; nor accommodate a surgical tip assembly disposed

through the passage. Accordingly, claim 26, as well as its dependent claims 27-31, should now clearly be in condition for allowance.

Regarding the rejection of independent claim 32, Green does not teach a guide assembly with a passage and an instrument member that passes through the passage, and adapted for rotation about the longitudinal axis. Green does not teach any control of the cannula. It is totally passive. Accordingly, claim 32, as well as its dependent claims 33-41, should now clearly be in condition for allowance.

Regarding the rejection of independent claim 42, Green does not teach a surgical instrument and a separate tubular adaptor for receiving and supporting the surgical instrument with the distal end of the surgical instrument extending beyond a distal end of the tubular adaptor; and drive means for..... controlling rotation of the adaptor while supporting the instrument. Again, in Green the cannula 180 is not at all controlled for any type of movement. Accordingly, claim 42 should now clearly be in condition for allowance.

Regarding the rejection of independent claim 43, Green does not teach a rotatable guide member and an end effector for use during surgical procedures, with the end effector being separable from and insertable into a patient through the guide member. Claim 43 recites that the guide member is adapted to rotate, and further recites that an actuation means is provided for effecting movement of the end effector by controlling rotation of the guide member. Accordingly, claim 43, as well as its dependent claims 44-51, should now clearly be in condition for allowance.

In connection with any of the claims that recite that there is control of the guide member or adaptor, it is noted that Green does not show this feature. In Figs. 10 and 11 of Green the cannula 180 is not at all controlled. In Fig. 14 the Office Action has made mention of column 10 at lines 50-67, but nowhere is there any teaching of rotation of a guide member. The only thing that could be considered a guide in Fig. 14 is the endoscope 260 but that is not rotated to direct an end effector such as claimed in claims 42 and 43.

Independent Claim 52 should also be found as patentably distinguishable over Green. Claim 52 recites, inter alia, the tubular holder of the instrument with the distal portion positioned a radial distance away from the longitudinal axis. Claim 52 also includes a further limitation clearly not found in Green of a flexible distal portion coterminous with the distal portion of the

tubular holder. Refer also to the statement of reasons for allowance in the companion case Serial No. 10/013,046, referenced above. Accordingly, claim 52, as well as its dependent claims 53-56, should now clearly be in condition for allowance.

Independent claim 57 directed to a method should also be allowable. Green does not show, inter alia, the step of inserting a surgical tip member through a guide member, nor rotating the surgical guide member to provide an additional degree of freedom of movement of the surgical tip member. Accordingly, claim 57, as well as its dependent claims 58-60, should now clearly be in condition for allowance.

Claim 101 should also be found as patentably distinguishable over Green. Claim 101 recites, inter alia, that the guide assembly includes a proximal portion, an elongated portion having a longitudinal axis of rotation and a distal portion that is adapted for insertion through an incision of a patient, and having a distal end that is positioned a radial distance away from the longitudinal axis. Claim 101 also recites that the drive unit is coupled to at least the guide assembly for rotating the guide assembly and controlling the guide assembly to pivot at the incision with only single axis motion. Clearly this feature is not found in Green. Accordingly, claim 101 and its related dependent claims 102-104 should now be found in allowable condition.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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Dated: 2/9/04

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FEB 20 2004
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